

RESPONSE

Support

Applicants have amended claim 1 to specify that the monocarboxylic acylating agent used to prepare component (B)(1) comprises tall oil fatty acids, oleic acid, stearic acid or isostearic acid and that the polyamine used to prepare component (B)(1) comprises alkylenediamines, N-alkyl alkylenediamines, or polyalkylenepolyamines. Support for these amendments is found on page 7, lines 19 to 21 and page 8, lines 4 to 5 of the specification.

Applicants have also amended claim 1 to specify that the Mannich reaction product, component (B)(2), is present at no more than 7.4 percent by weight on actives basis. Support for this limit is found in example 6 in the table on page 20 of the specification and footnote h on page 21 of the specification as well as page 22, lines 13 to 15 of the specification. The example in the specification contains 7.4 percent by weight Mannich reaction product, which is the highest treat rate used in any of the examples filed with the specification, thus providing support for setting a maximum treat rate for the Mannich reaction product of 7.4 percent by weight, where the percent by weight value is calculated on an actives, or oil and solvent free basis.

Applicants have also amended claim 1 to specify that the friction modifier, component (B)(3) is present from 0.3 to 0.5 weight percent on an actives basis. Support for this range is also found in the examples, specifically Examples 3, 4, 7 and 8 on page 20, where footnotes e, f, i and j on page 21 disclose that the examples contain 0.3 percent by weight of the friction modifier, while Example 6, as disclosed in footnote h, again on pages 20 and 21, includes 0.5 percent by weight of a friction modifier, thus providing support for range added to the claims.

Applicants have amended claim 87 to depend on claim 1 and have cancelled claims 3 and 7.

No other elements of the claims have been changed.

Response

The Examiner has maintained the rejection of claims 1, 3, 5 to 8, 10 and 12 to 14 under 35 U.S.C. 103(a) as unpatentable over Blythe (US 5,264,005) in view of Patel

(US 5741764) further in view of Teacherson (US 2004/0083729). Applicants respectfully disagree.

The Examiner finds that the previous claims are still incommensurate in scope with the data provided and indicated several specific items that Applicants should address. Applicants have addressed each of these items with the amendments provided above and ask that the Examiner reconsider the current rejection, and find that the present claims represent a patentable selection over the cited references.

First Applicants note that the declaration submitted December 16, 2009 is being resubmitted with this response. The declaration has been modified by adding the actives or oil-free treat rates of components (B)(1), (B)(2) and (B)(3) to the tables as well as relabeling the comparative and inventive examples to reflect the present claims. Only the (B)(2) components show any difference between the original percent by weight values and the actives basis values. As the Examiner may know, materials such as those of component (B)(2) are often prepared in diluent oil and/or solvent and it is common practice in industry to include residual diluent and/or solvent as part of the “product”. Actives basis values, or oil free values, discount this oil and/or solvent and give a treat rate that is often more comparable across materials that have different levels of dilution inherent in their means of production. The values in the examples in the specification are all on an oil free basis, as indicated in the specification. The tables presenting the additional examples in the declaration now include their oil free treat rates as well. The Examiner will note that the active basis weight percents are similar across the various (B)(2) components tested, which is actually why the original treat rates were chosen, to provide a valid comparison across the (B)(2) candidates.

In addition, the Examiner noted that the data provided appears to indicate increasing the treat rate of the Mannich additive leads to poorer undercrown ratings and suggested the addition of a maximum amount of Mannich additive that could be present in the compositions specified by the claims. Applicants have responded by amending the claims to limit the treat rate of the Mannich additive to no more than 7.4 weight percent on an actives basis, which was the maximum Mannich treat rate used in the examples filed with the specification.

The Examiner requested that the concentration for component (B)(3) be limited to be commensurate in scope with the data provided. Applicants have responded by amending the claims to limit the treat rate of friction modifier to 0.3 to 0.5 percent by weight, as these treat rates were used in the examples filed in the specification.

The Examiner also requested that component (B)(1) be limited to be commensurate in scope with the data provided. Applicants have responded by specifying that (B)(1) is a reaction product of a fatty hydrocarbyl-substituted monocarboxylic acylating agent and a polyamine, wherein the monocarboxylic acylating agent comprises tall oil fatty acids, oleic acid, stearic acid or isostearic acid, wherein the polyamine comprises alkylenediamines, N-alkyl alkylenediamines, or polyalkylenepolyamines, and wherein the reaction product comprises a heterocyclic reaction product. The amended claim is consistent with the data provided in the specification and the subsequent declarations. The material used in the examples is the reaction product of isostearic acid and tetraethylenepentamine. There is no reason not to believe that similar acids and polyamines will not provide materials that provide the same performance as the specific example provided. Therefore, the amended claims are commensurate in scope with the data when considering component (B)(1).

Finally, the Examiner asked about the different concentrations used for the friction modifiers, specifically why one treat level was used with aminophenols and another treat rate was used with Mannich reaction products. As the present claims are limited to Mannich reaction products Applicants believe this point is moot. However Applicants note that the data provided in the specification and subsequent declarations was not part of a study completed solely for use in supporting this application, but rather is commercial development data that was collected in support of a research project. In short, it is the data we had in hand related to these compositions and decisions about individual treat rates in each of the samples was made based on commercial motivations and not by considering what would be the ideal comparative and/or inventive example. Applicants regret that a clean data set was not available.

Conclusion.

For the foregoing reasons it is submitted that the present claims are novel and unobvious over the cited reference, and in condition for allowance. The foregoing remarks are believed to be a full and complete response to the outstanding office action. Therefore an early and favorable reconsideration is respectfully requested. If the Examiner believes that only minor issues remain to be resolved, a telephone call to the Undersigned is suggested.

Any required fees or any deficiency or overpayment in fees should be charged or credited to deposit account 12-2275 (The Lubrizol Corporation).

Respectfully submitted,

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